## (19) World Intellectual Property Organization International Bureau





(43) International Publication Date 9 December 2004 (09.12.2004)

 $\mathbf{PCT}$ 

(10) International Publication Number WO 2004/107576 A1

(51) International Patent Classification7: 3/0231

H03K 4/501,

(74) Agent: WATKIN, Timothy, Lawrence, Harvey; Lloyd Wise, Tanjong Pagar, P.O. Box 636, Singapore 910816 (GB).

(84) Designated States (regional): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,

IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

(21) International Application Number:

PCT/SG2003/000137

(81) Designated States (national): CN, KR, US.

(22) International Filing Date:

3 June 2003 (03.06.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(71) Applicant (for all designated States except US): IN-FINEON TECHNOLOGIES AG [DE/DE]; St.-Martin-strasse 53, D-81669 Munich (DE).

Declaration under Rule 4.17:

of inventorship (Rule 4.17(iv)) for US only

(72) Inventor; and

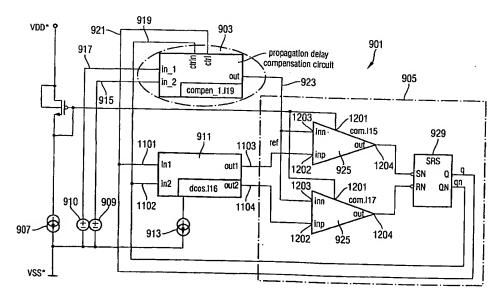
(75) Inventor/Applicant (for US only): GONG, Xiaowu [CN/SG]; Block 310, # 08-293, Clementi, Ave. 2, Singapore 120310 (SG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: RELAXATION OSCILLATOR WITH PROPOGATION DELAY COMPENSATION FOR IMPROVING LINEARITY AND MAXIMUM FREQUENCY



(57) Abstract: The present invention uses a variable reference voltage to compensate for propagation delay in a tunable oscillator caused by delays in the electronic components. The reference voltage is decreased as the control current increases and is varied in frequency to match the phase of the oscillator.